

A STRIKING NEW SUBSPECIES OF *HYPOLIMNAS PITHOEA* KIRSCH (LEPIDOPTERA: NYMPHALIDAE) FROM THE TORRES ISLANDS, NORTHERN VANUATU

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Abstract

Hypolimnas pithoeka impostor subsp. nov. is described from the Torres group of islands in northern Vanuatu. It is compared with other subspecies of *H. pithoeka* Kirsch and with *H. octocula* Butler. Its mimetic resemblance to *Euploea leucostictos* Gmelin is discussed.

Introduction

Hypolimnas pithoeka Kirsch occurs, in a number of described subspecies, from the main island of New Guinea eastwards through the Solomon archipelago to Vanuatu. On islands of the Solomon archipelago, *H. pithoeka* is a member of resident nymphalid mimicry complexes. The female of its congener *H. misippus* Linnaeus is said to be a remarkably close mimic of *Danaus chrysippus* Linnaeus. Subspecies of *H. pithoeka*, while less colourful or dramatic, are equally accurate mimics of brown species of *Euploea* Fabricius.

H. pithoeka was first recorded from Vanuatu by Gross (1975), who reported it from the islands of Efaté and Erromango. Samson (1979) reported nominotypical *H. pithoeka* from the 'New Hebrides' and later (Samson 1983, 1986) recorded '*H. pithoeka* subsp.' from Efaté. The present author is not aware of any specimens of *H. pithoeka* from Vanuatu in any museum or private collection. Tennent (2001a) suggested the possibility that Vanuatu specimens may be referable to *H. p. leveri* Tennent, described from the Santa Cruz group of islands (Solomon Islands). This is not the case. During a brief visit to the Torres group of islands in northern Vanuatu in September 2000, a short series of *H. pithoeka*, representing an undescribed subspecies, was collected on Loh Island.

***Hypolimnas pithoeka impostor* subsp. nov.**

(Figs 1-4)

Types. Holotype ♂, VANUATU: Torres group, Loh Island, between Lunghariki and Rinjha villages, SL-20 m, 6.ix.2000, W.J. Tennent (in The Natural History Museum [BMNH], London). *Paratypes*: 1 ♂, 1 ♀, same data as holotype (♂ gen. prep BMNH(V) 5979); 1 ♂, 1 ♀, same data as holotype but 7.ix.2000 (♂ gen. prep BMNH(V) 5980); 4 ♀♀, same data as holotype but 3.ix.2000, 4.ix.2000, 8.ix.2000 or 10.ix.2000 (all BMNH).

Description. Male (Figs 1-2). Forewing length 35 mm; upperside markings with some superficial resemblance to *H. p. ferruginea* Howarth from Bellona Island and *H. octocula* from the northern and central islands of Vanuatu.



Figs 1-2. *Hypolimnast pithoeka impostor* subsp. nov., holotype male: (1) upperside; (2) underside.



Figs 3-4. *Hypolimnias pithoeka impostor* subsp. nov., paratype female: (3) upperside; (4) underside.

Forewing dark brown, with an indistinct and obscure dull red postdiscal band and subapical markings (variable: the holotype [Fig. 1] is intermediate) (forewing unmarked in *H. p. ferruginea*; forewing generally with a broad, clear orange postdiscal band in *H. octocula*); 2-4 tiny white subapical spots; hindwing with a broad, dull orange submarginal band, enclosing a full series of white-pupilled black spots (band duller and spots incomplete, not white-pupilled in *H. p. ferruginea*; band narrower, brighter, and spots not white-pupilled in *H. octocula*); underside various shades of brown with obscure pale orange-yellow submarginal band enclosing a full series of black submarginal spots almost completely filled with prominent, white centres (underside without band in *H. p. ferruginea*; band usually distinct and white centres less prominent in *H. octocula*). Genitalia typical of *H. pithoeka*.

Female (Figs 3-4) superficially similar to other subspecies of *H. pithoeka*, in particular *H. p. ferruginea* and *H. p. leverii* (from Santa Cruz Islands); upperside plain brown; forewing with a curved subapical series of white spots and a prominent (see discussion) 'double' spot above inner margin; hindwing with an irregular submarginal series of pale blue markings (lacking in other subspecies of *H. pithoeka*) and an obscure orange-brown broad submarginal band enclosing black spots with large white pupils; underside shades of brown; forewing with a full series of submarginal white spots; hindwing with a barely discernible pale submarginal band enclosing a full series of black spots prominently filled with white.

Distribution. The Torres group (Loh Island), northern Vanuatu.

Etymology. The subspecific name *impostor* is derived from its deceptive resemblance to *Euploea leucostictos*.

Discussion

The author has observed *H. pithoeka* on many islands of the Solomon archipelago, including the western and central islands (*H. p. pithoeka*), Rennell (*H. p. bradleyi* Howarth), Bellona (*H. p. ferruginea*), Malaita (*H. p. scopas* Godman & Salvin) and the Santa Cruz group (*H. p. leverii*). Although widespread, it is seldom common and individuals of both sexes are usually found in company with greater numbers of resident *Euploea* species, which they resemble both in phenotype and flight pattern. They thus obtain a measure of protection due to the unpalatability of the danaine butterflies. With experience, *H. pithoeka* can usually be identified on the wing, although this may not be possible until an individual comes to rest, usually quite suddenly and without hesitation on the upper or under surface of a leaf, with wings closed. *Euploea* species rest in the same position but almost always investigate a suitable resting place by hesitating before landing, sometimes for quite a prolonged period. Males of some subspecies (e.g. *H. p. bradleyi* and *H. p. leverii*) also occasionally rest in typical nymphaline fashion, with wings spread flat, a posture rarely adopted by their danaine models.

A male *Hypolimnias* Hübner species seen (but not secured) on Loh Island feeding at the flowers of *Mikania* (Asteraceae) initially was thought to be *H. octocula*, not recorded from the Torres group, on account of its prominent orange bands. The following day, a butterfly which appeared similar in all respects to *Euploea leucostictos* Gmelin was observed at close quarters flying in an overgrown village garden and initially was ignored. It was not until the individual came to rest suddenly on the upperside of a leaf that the underside markings clearly identified it as a species of *Hypolimnias*. The white submarginal mark above the margin on the upperside of the forewing in female *H. pithoeka* and the prominent median spot on both surfaces of the forewing in male *E. leucostictos*, bear little resemblance when viewed on set specimens. In flight, however, this female *H. pithoeka* (Fig. 3) appeared very similar to *E. leucostictos* and this presumably affords some protection from potential predators. When a male was eventually captured, it was clear from the shape of the forewing, longer and narrower than that of *H. octocula*, that this was also *H. pithoeka*.

The male of *H. pithoeka impostor* closely resembles that of *H. octocula* from the southern islands of Vanuatu, where it is apparently very variable and often has the orange forewing band reduced or absent (Samson 1986). On the central islands (e.g. Espiritu Santo, Malakula, Efaté), *H. octocula* is less variable. There appears to be some faunal discontinuity between the Torres Islands and the Santa Cruz group (Solomon Islands) to the north and between the Torres Islands and the Banks group to the south-east (c.f. *Papilio fuscus* Goeze: Tennent 2001b) and this is currently under investigation.

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